



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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<b>(21) International Application Number:</b> PCT/US98/19886 <b>(22) International Filing Date:</b> 28 September 1998 (28.09.98) <b>(30) Priority Data:</b> 08/939,136 29 September 1997 (29.09.97) US <b>(71) Applicant (for all designated States except US):</b> ALPINE PARTNERS [US/US]; Suite 16L, 120 Country Club Drive, Incline Village, NV 89451 (US). <b>(72) Inventors; and</b> <b>(75) Inventors/Applicants (for US only):</b> MOORE, Patricia, A. [US/US]; Suite 16L, 120 Country Club Drive, Incline Village, NV 89451 (US). SHERATON, David, A. [US/US]; 18 Blessing, Irvine, CA 92612 (US). <b>(74) Agents:</b> EDELL, Ira, C. et al.; Epstein, Edell & Retzer, Suite 400, 1901 Research Boulevard, Rockville, MD 20850-3164 (US).		<b>(81) Designated States:</b> CA, JP, KR, US, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). <b>Published</b> <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>
<b>(54) Title:</b> SKIN MOUNTED DEVICE HOLDER <b>(57) Abstract</b> <p>A skin mounted device holder for holding generally medical devices such as fluid reservoirs. The skin mounted device holder include a base (10) comprised of a resilient cloth material and having a fastener (28) attached to its top surface (12) and a water based adhesive material (24) coated onto its bottom surface (14), a securing flap (16) having a fastener (30) for mating with the fasttener (28) of the base (10), and a connector loop (20) having an attachment (22) for attaching medical devices. The connector loop (20) loops around the securing flap (16) and thus connects the medical devices to the base (10).</p>		

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## **SKIN MOUNTED DEVICE HOLDER**

### **BACKGROUND OF THE INVENTION**

The present invention relates to a skin mounted device holder for holding medical devices to a person's skin, and more particularly a securing tape in the form of a Velcro type of fastener for securing a reservoir such as for use in holding body fluid.

5 It is important that the skin mounted devices stick to human skin firmly because one of the most frequent applications of the skin mounted device holder is to hold drainage fluid reservoirs in connection to a woman's mastectomy. In addition, the skin mounted device holder when constructed with hydrogel is easily removable without causing tear of the skin. This is especially important to patients who have  
10 already endured painful medical procedures and one less pain would certainly assist in patients' recovery.

It is also important that the means for attaching the reservoirs be easily releasable so that the reservoirs can be quickly emptied and be remounted again. One of the purposes of the present invention is to replace a tower type of hanger for  
15 hanging fluid reservoirs. Therefore, patients need not carry around a bulky tall hanger that restricts patients' mobility.

A need therefore exists for an inexpensive skin mounted holder for medical patients, especially mastectomy patients.

The present invention provides an economical means to meet aforesaid  
20 everyday common medical requirements.

### **SUMMARY OF THE INVENTION**

The present invention provides an economical medical device holder for attaching and mounting body fluid reservoirs and the like devices onto a patient's skin. It further can provide a reusable and non-painful method of removing the device  
25 holder apart from the patient's skin when constructed with hydrogel.

For ease of presentation, this section describes the skin mounted device holder on a horizontal plane. Other orientations are possible and this description is not intended to limit the scope of the invention to any particular geometry of the elements.

The present invention meets the requirements of quick mounting of medical fluid reservoirs, quick releases of medical devices, and a re-usable adhesive strip of tape for attaching onto a person's skin. The present invention provides a resilient base means having a water based adhesive on one side for adhering to a patient's skin and a VELCRO type of fastening material on the other side for allowing a securing flap to be secured onto the base means. The base means has sufficient flexibility such that it will adapt to the movements and flexibility of a patient's skin and muscle rather than breaking the contact between the base means and the patient's skin. The adhesive is of a hydrogel type, commonly available in the medical industry, and is composed of medical grade material. Three possible manufacturers of the hydrogel are Energy Technology, Promeon and Lectec.

The base means with the medical grade hydrogel adhesive can be mounted on any part of a patient's body due to the unique nature of the hydrogel. Unlike a typical adhesive, the hydrogel can be easily peeled off the skin of a patient.

A connector loop is looped around the securing flap securing onto the base means. Medical devices such as body fluid drain reservoirs are attached to the connector loop and thus follow the patient around.

The base means having a hydrogel release adhesive liner attaches to the surface of the adhesive. The hydrogel adhesive release liner protects the adhesive to prevent accidental sticking of the adhesive during the preparation and shipping of the skin mounted device holder.

#### BRIEF DESCRIPTION OF THE DRAWINGS

These and other features, aspects, and advantages of the present invention will become better understood with reference to the following description, appended claims, and accompanying drawings, where:

Figure 1 is a horizontal view of the Skin Mounted Device Holder according to the present invention depicting an attachment to a typical reservoir;

Figure 2 is a side view of the Skin Mounted Device Holder according to the present invention attached to a typical reservoir loop;

Figure 3 is an angular side view of the Skin mounted Device Holder according

to the present invention securing a typical reservoir loop; and

Figure 4 is a version of the invention utilizing a pressure sensitive adhesive.

#### DESCRIPTION OF THE PREFERRED EMBODIMENT

The present invention is directed to a device for providing a means for  
5 attaching medical devices onto patients' skin. The medical devices suitable for this application are fluid reservoirs.

With reference to Figures 1-3 of the drawings, a base means 10 includes a top surface 12 and further having a bottom surface 14. The base means top surface 12 includes a first fastening means 28 which is woven onto the top surface 12 of the base  
10 means 10. A preferred fastening means of the first fastening means 28 is a VELCRO type of loop or pile fastening material. The bottom surface 14 of the base means 10 is coated with a hydrogel adhesive 24 such as the types available from Energy Technology, Promedon and Lectec. Those skilled in the art will understand that any other material suitable for similar medical applications may also be used.

15 A hydrogel adhesive release liner 26 is adhered to the hydrogel adhesive 24. During application, the hydrogel adhesive release liner 26 is peeled away from the hydrogel adhesive 24, exposing the hydrogel adhesive 24 for adhering to the skin of a patient.

Securing flap 16 having a bottom surface 18 is adapted for attaching onto the  
20 top surface 12 of base means 10. The bottom surface 14 of the securing flap 16 includes a second fastening means 30 which is woven onto the securing flap bottom surface 18. A preferred fastening means for the second fastening means 30 is a VELCRO type of hook material. Attachment of the securing flap 16 is provided through the mating of the second fastening means 30 attached to the bottom surface  
25 18 of the securing flap 16 to the first fastening means 28 of the top surface 12 of the base means 10.

A connector loop 20 has two ends. One end is wrapped around the securing flap 16 for extending down from the securing flap 16. A medical device attachment means 22 is attached to the other end of the connector loop 20 opposite to the end  
30 wrapping around the securing flap 16. As best seen in Figure 1, the securing loop 20

extends down from the securing flap 16 and connects to medical devices such as body fluid reservoirs via the medical device attachment means 22. It will be understood by those skilled in the art that the design of the connector loop 20 allows securing flap 16 to be used as a means to attach medical devices onto human skin.

5           Although the present invention has been described in considerable detail with reference to certain preferred versions 10 thereof, other versions are possible. For example, the first fastening means 28 may be comprised of a VELCRO type of hook fastening material and the second fastening means 30 may comprised of a VELCRO type of pile or loop material. In addition, the first fastening means 28 and the second  
10 fastening means 30 can be fasteners similar to the VELCRO type but do not necessarily need to be VELCRO.

Therefore, the spirit and scope of the appended claims should not necessarily be limited to the description of the preferred version contained herein.

WHAT IS CLAIMED IS:

1. A skin mounted device holder comprising:

(a) base means having a top surface and a bottom surface, said top surface having a first fastening means woven onto said top surface, said bottom surface coated with an adhesive for adhering to human skin;

5 (b) a securing flap having a bottom surface, said bottom surface having a second fastening means woven into said bottom surface for mating to said first fastening means; wherein the first fastening means is adapted to mate with the second fastening means;

10 (c) a connector loop having a first end and a second end, the first end looping around the securing flap, the second end having an attachment means for attachment to medical devices; and

(d) an adhesive release liner adhering to the adhesive and adapted to be peeled away to thereby expose the adhesive.

2. The skin mounted device holder of claim 1, wherein the base means comprises a resilient pad of cloth material.

3. The skin mounting device holder of claim 1, wherein the first fastening means is loop material.

4. The skin mounting device of claim 1, wherein the second fastening means is hook material.

5. A skin mounted device holder for holding body fluid reservoir comprising:

(a) base means having a top surface and a bottom surface, said top surface having a first fastening means woven onto said top surface, said bottom surface having an adhesive coating for adhering to human skin;

5 (b) a securing flap having a bottom surface, said bottom surface having a second fastening means woven into said bottom surface for mating to said first fastening means, wherein the first fastening means is adapted to mate with

the second fastening means;

10 (c) a connector loop having a first end and a second end, the first end looping around the securing flap, the second end having an attachment means for attachment to medical devices; and

(d) an adhesive release liner adhering to the adhesive and adapted to be peeled away and thereby expose the adhesive.

6. The skin mounted device holder of claim 5, wherein the base means comprises a resilient pad of cloth material.

7. The skin mounting device holder of claim 5, wherein the adhesive is comprised of hydrogel.

8. The skin mounting device holder of claim 5, wherein the first fastening means is hook material.

9. The skin mounting device of claim 5, wherein the second fastening means is loop material.

10. A skin mounted device holder for holding body fluid reservoirs comprising:

5 a base means having a top surface and a bottom surface, the base means comprising a resilient cloth material, said top surface having a first fastening means comprised of loop material woven onto said top surface, said bottom surface being coated with adhesive for adhering to human skin, said adhesive being comprised of hydrogel;

10 a securing flap having a bottom surface, said bottom surface having a second fastening means comprised of hook material woven into said bottom surface for mating to said first fastening means;

a connector loop having a first end and a second end, the first end looping around the securing flap, the second end having an attachment means for attachment

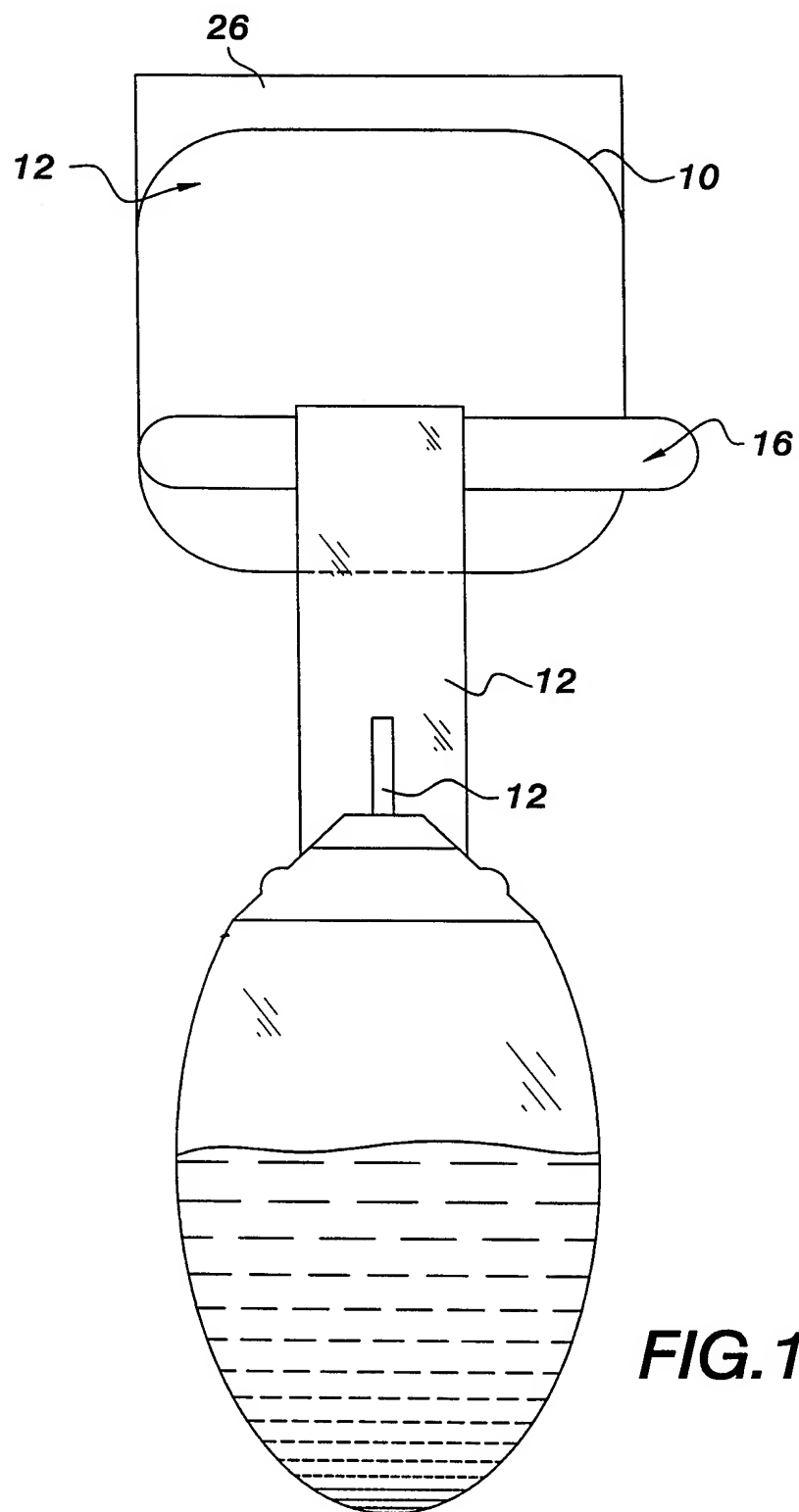


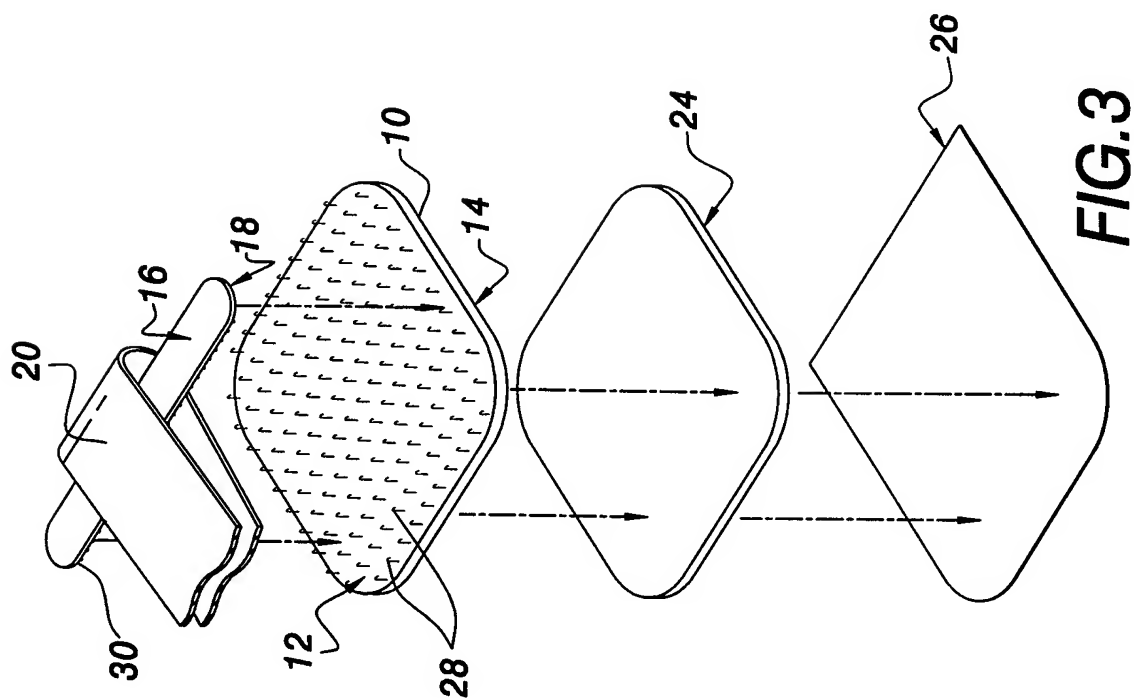
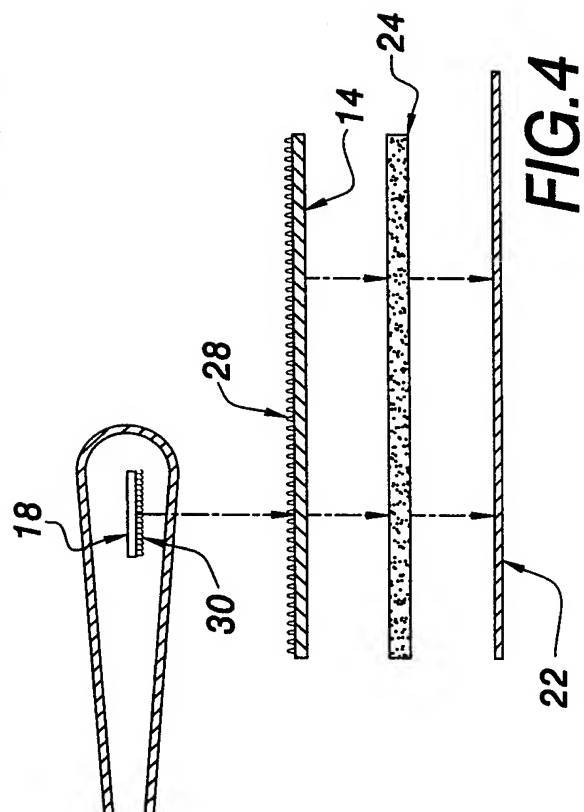
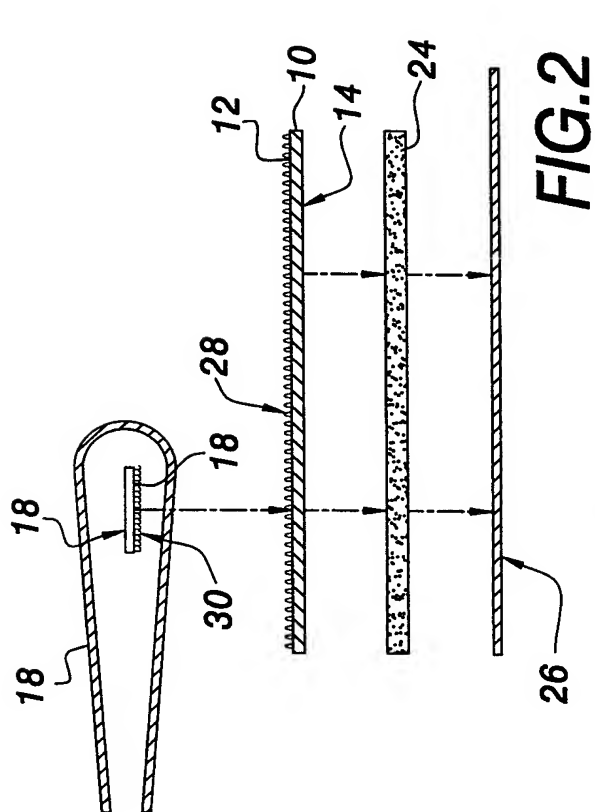
to medical devices;

the first fastening means being adapted to mate with the second fastening

15 means; and

an adhesive release liner adhering to the adhesive and adapted to be peeled away and thereby expose the adhesive means.

**FIG. 1**



## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US98/19886

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(6) : A44B 21/00

US CL : 24/306

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 24/306, 304, dig. 11, 3.1; 248/205.2, 205.3; 224/901, 901.2; 604/180; 128/dig. 15

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4,898,587 A (MERA) 06 February 1990 (06/02/90), see Fig. 6.	1-10
A	US 5,037,397 A (KALT et al.) 06 August 1991 (06/08/91), see Fig. 1.	1-10
A	US 5,480,719 A (TOLLINI) 02 January 1996 (02/01/96), see Fig. 59.	1-10

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:	*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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Facsimile No. (703) 305-3230

Authorized officer

JAMES R. BRITTAIN

Telephone No. (703) 308-2168